

REMARKS/ARGUMENTS

Favorable reconsideration of this application as presently amended and in light of the following discussion is respectfully requested.

Claims 1-16 are pending in this application. Claims 1, 2, 4, 5, 7, 8, and 10-14 are amended and Claims 15 and 16 are added by the present amendment.

Amendments to the claims and added claims find support in the application as originally filed, at least in the drawings at Figures 8-12. Thus, no new matter is added.

This amendment is submitted in accordance with 37 C.F.R. § 1.116, which after Final Rejection permits entry of amendments, canceling claims, complying with any requirement of form expressly set forth in a previous Office Action, or presenting rejected claims in better form for consideration on appeal. It is therefore respectfully requested that the present amendment be entered under 37 C.F.R. § 1.116.

In the outstanding Office Action, Claims 1, 7, and 14 were objected to; Claims 13 and 14 were rejected under 35 U.S.C. § 112, second paragraph; Claims 1-4, 6-10, and 12-14 were rejected under 35 U.S.C. § 103(a) as unpatentable over U.S. Publication 2004/0114495 to Kim et al. (“Kim”) in view of U.S. Patent ,6,141,304 to Ogasawara; and Claims 5 and 11 were rejected under 35 U.S.C. § 103(a) as unpatentable over Kim in view of Ogasawara and U.S. Publication 2006/0077784 to Kanaya et al. (herein “Kanaya”).

Regarding the objection to the claims, Claims 1, 2, 4, 5, 10, 11, 13, and 14 are amended as suggested in the Office Action. Further, Claim 7 is amended to recite features of the claimed optical pick-up device, which are indented and properly separated by commas. Accordingly, it is respectfully requested that the objection to the claims be withdrawn.

Furthermore, regarding the rejection under 35 U.S.C. § 112, second paragraph, Claim 13 is amended to indicate that the recited steps are included in the method of controlling an optical pick-up device. With regard to the third paragraph in the rejection, Applicant

respectfully submits that the claimed correcting step includes to correcting a comatic aberration of the second optical system in one of the radial tilt direction and the tangential tilt direction, which is not controlled by the object lens drive unit. Further, the correcting may be performed “using a device arranged in an optical path of the second optical system between one of the first, second, or third light emitting element and the second optical system and out of an optical path of the first optical system.” Accordingly, Applicant respectfully submits that Claim 13 is complete as written. Accordingly, it is respectfully requested the rejection under 35 U.S.C. § 112, second paragraph, be withdrawn.

In addition, Applicant respectfully traverses the rejection of Claims 1-4, 6-10, and 12-14 under 35 U.S.C. § 103(a) as unpatentable over Kim in view of Ogasawara.

Claim 1 is directed to an optical pick-up device that includes, in part, first and second optical systems including first and second object lenses, respectively; and an object lens drive unit including a bobbin that holds the first and second object lenses and serves to allow the bobbin to undergo a drive displacement in 1) a focusing direction perpendicular to a recording surface of the optical disc, 2) a tracking direction that is a substantially radial direction of the optical disc, and 3) one of a) a radial tilt direction in which movement is performed in a circular arc form on an axis of the radial direction and b) a tangential tilt direction in which movement is performed in a circular arc form on an axis of a tangential direction which is a direction perpendicular to the radial direction.

The device also includes a comatic aberration correcting means for correcting a comatic aberration of the second optical system relatively taking place with respect to the first optical system in one of the radial tilt direction and the tangential tilt direction, which is not controlled by the object lens drive unit. The aberration correcting means is arranged in an optical path of the second optical system between one of the first, second, or third light emitting element and the second optical system and out of an optical path of the first optical

system. Independent Claims 7 and 13 include similar features or related steps directed to different classes and scopes of invention.

Applicant respectfully submits that the features of Claims 1, 7, and 13 would not have been obvious to one of skill in the art at the time of invention in light of the disclosures of Kim and Ogasawara. For example, Applicant respectfully submits that Kim and Ogasawara fail to teach or otherwise suggest an optical pick-up device comprising first and second optical systems each including an object lens used with a comatic aberration correcting means for correcting a comatic aberration arranged in an optical path of the second optical system between one of the first, second, or third light emitting element and the second optical system and arranged out of an optical path of the first optical system. Further, the references fail to teach or suggest a comatic aberration correcting means for correcting a comatic aberration of the second optical system relatively taking place with respect to the first optical system in one of the radial tilt direction and the tangential tilt direction that is not controlled by the object lens drive unit.

As noted in the Office Action, Kim fails to disclose an aberration correcting means that is arranged in an optical path of a second optical system between one of the first, second, or third light emitting element and the second optical system.¹ Furthermore, Applicant respectfully submits that Kim fails to teach or suggest that the aberration correcting means is arranged in an optical path of the second optical system and *out of an optical path of the first optical system*.

Further, Applicant respectfully submits that Kim fails to suggest a comatic aberration correcting means that corrects a comatic aberration between two optical systems in a selected direction (i.e., one of the radial tilt direction and the tangential tilt direction) that is not controlled by an object lens drive unit.

¹ Office Action at page 6, lines 8-10.

Additionally, Applicant respectfully traverses the assertion in the Office Action that “it would have been obvious to one of ordinary skill in the art at the time the invention was made to replace the aberration correcting means of Kim with the aberration correcting means of Ogasawara, such that aberration is corrected while the aberration correcting means remains out of an optical path of the first optical system (45) of Kim.²

Applicant respectfully submits that Ogasawara teaches away from using two objective lenses, and Ogasawara also teaches away from using a separate tilt correcting means (e.g., aberration correcting means). Therefore, instead of teaching the combination asserted in the Office Action, the disclosure of Ogasawara actually teaches away from combining the aberration correcting means of Kim with the aberration correcting means of Ogasawara.

In particular, Ogasawara indicates that

with the method in which two objective lenses are used and the method in which the correcting lens is used, there are drawbacks in that the mechanism is complicated, and that it occupies a large space and is therefore unsuitable for making the apparatus compact in size.³

In other words, Ogasawara indicates that there are drawbacks in using two objective lenses. Accordingly, Ogasawara proceeds to describe an optical pick-up that is effected for changing over between two different types of disks with only a single objective lens.

Additionally, Ogasawara indicates that

Further, if an arrangement is provided so as to allow both the DVD and the CD to be used, it is difficult to simultaneously effect a correction with respect to the tilting of the disk (hereafter referred to as the tilt correction), so that it is necessary to provide a tilt correcting means separately. If the tilt correcting means is provided separately, the optical pickup apparatus becomes large in size, and the cost becomes high.⁴

² Office Action at page 6, lines 14-18.

³ Ogasawara at column 1, line 65 to column 2, line 2.

⁴ Ogasawara at column 2, lines 8-16.

Thus, Ogasawara also teaches away from using a separate tilt correcting means where the tilt correcting means (e.g., aberration correcting means) is provided separately.

Therefore, Ogasawara is also silent regarding any separate aberration correcting means that corrects a comatic aberration in one optical system with respect to another optical system, and Ogasawara is silent regarding any aberration correcting means that corrects a comatic aberration in one of two directions that is not controlled by a separate correcting means (e.g., an object lens drive unit). Accordingly, Ogasawara also fails to teach or suggest “a comatic aberration correcting means for correcting a comatic aberration of the second optical system relatively taking place with respect to the first optical system in one of the radial tilt direction and the tangential tilt direction, which is not controlled by the object lens drive unit, and the aberration correcting means is arranged in an optical path of the second optical system between one of the first, second, or third light emitting element and the second optical system and out of an optical path of the first optical system,” as recited in Claim 1.

Therefore, Applicant respectfully submits that any combination of Ogasawara and Kim would not yield the claimed invention and would actually teach away from the claimed invention. For example, in light of the disclosure noted above in Ogasawara, a combination of Ogasawara and Kim would replace the two objective lenses noted in Kim with a single objective lens having no separate tilt correcting means, as required by Ogasawara.

Furthermore, there is no reason for a combination of Kim and Ogasawara to include an aberration correcting means that corrects a comatic aberration of a second optical system relatively taking place with respect to a first optical system in a direction that is not controlled by an object lens drive unit, because Ogasawara teaches away from using two objective lenses and Ogasawara teaches away from using a separate tilt correcting means.

Furthermore, there is no reason for a combination of Kim and Ogasawara to include an aberration correcting means that is arranged in an optical path of a second optical system and

out of an optical path of a first optical system, at least because Ogasawara teaches away from using two objective lenses and Ogasawara also teaches away from using a separate tilt correcting means.

Accordingly, Applicant respectfully submits that independent Claims 1, 7, and 13, and claims depending therefrom, patentably define over Ogasawara and Kim, whether taken individually or in combination.

Therefore, Applicant respectfully requests the rejection of Claims 1-4, 6-10, and 12-14 under 35 U.S.C. § 103(a) as unpatentable over Kim in view of Ogasawara be withdrawn.

Furthermore, Applicant respectfully traverses the rejection of Claims 5 and 11 under 35 U.S.C. § 103(a) as unpatentable over Kim, Ogasawara, and Kanaya.

Claims 5 and 11 depend from independent Claims 1, and 7, which as discussed above are believed to patentably define over Kim and Ogasawara. Furthermore, Applicant respectfully submits that Kanaya fails to supply the claimed features lacking in the disclosures of Kim and Ogasawara. Accordingly, it is respectfully requested that rejection also be withdrawn.

Claim 15 is added to recite an optical pick-up device according to Claim 1, wherein each of the first and second object lenses includes a converging portion configured to converge light and a flange configured to connect to the bobbin surrounding the converging portion. The portion of the flange of one of the first and second object lenses is removed and the other one of the first and second object lenses is arranged to overlap the portion of the flange that is removed. Added Claim 16 includes similar features.

In the non-limiting embodiment of Applicant's Figure 12, first object lens 271 and second object lens 32 are shown by way of example. Each of the first and second object lenses in this example includes a flange 202 surrounding a converging portion (e.g., inner circle portion of each object lens). According to this example, a portion of the flange 202 of

the first object lens 271 is removed, and the second object lens 32 is arranged to overlap a portion of the flange of the first object lens that is removed. Such an arrangement advantageously allows the two object lenses to be mounted closer together. Such a miniaturization of the optical pick-up unit may advantageously improve tracking control with respect to the object lenses and improve detection sensitivity.⁵

Applicant respectfully submits that the references in the Office Action also fail to teach or suggest the features of added Claims 15 and 16.

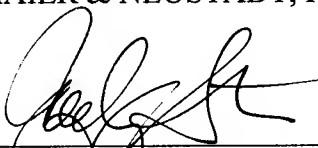
Therefore, added Claims 15 and 16 are believed to patentably define over Kim, Ogasawara, and Kanaya, for that distinct reason in addition to the reasons noted above with respect to the independent claims.

Accordingly, Applicant respectfully submits that independent Claims 1, 4, and 13, and claims depending therefrom, are allowable.

Consequently, in light of the above discussion and in view of the present amendment, this application is believed to be in condition for allowance and an early and favorable action to that effect is respectfully requested.

Respectfully submitted,

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⁵ Specification at page 36, lines 9-15.